CLAIMS

1. An amplifier circuit comprising:

a constant envelope signal generating section for generating a plurality of constant envelope signals from an input signal;

a pilot signal generating section for generating a plurality of pilot signals associated with the generated plurality of constant envelope signals, respectively, the plurality of pilot signals having predetermined amplitudes, predetermined phases and predetermined frequencies, respectively, said phases and frequencies being different from each other;

an addition section for adding the plurality of pilot signals to the generated plurality of constant envelope signals;

an amplifying section for amplifying the plurality of constant envelope signals to which the plurality of pilot signals are added; and

a correction section for correcting an amplitude or phase of one of the generated plurality of constant envelope signals using a signal component included in the amplified plurality of constant envelope signals and corresponding to the plurality of pilot signals.

2. The amplifier circuit according to claim 1, wherein the pilot signal generating section generates the

plurality of pilot signals which are sine wave signals.

3. The amplifier circuit according to claim 1, wherein the pilot signal generating section generates the plurality of pilot signals in such a manner that amplitudes thereof are equal to each other.

4. The amplifier circuit according to claim 1, wherein the pilot signal generating section generates the plurality of pilot signals having the frequencies outside a frequency band of the input signal.

5. The amplifier circuit according to claim 1, further comprising a combining section for combining the plurality of constant envelope signals to which the plurality of pilot signals are added,

wherein the pilot signal generating section generates the plurality of pilot signals which cancel each other out when combining is performed by the combining section.

6. The amplifier circuit according to claim 1, wherein the pilot signal generating section generates the plurality of pilot signals including a first pilot signal and second pilot signal which have opposite phases to each other.

7. The amplifier circuit according to claim 1, wherein the pilot signal generating section generates the plurality of pilot signals including a first pilot signal and second pilot signal of a frequency lower than a frequency band of the input signal, and a third pilot signal and fourth pilot signal of a frequency higher than the frequency band of the input signal.

8. The amplifier circuit according to claim 1, further comprising a frequency characteristic correction section for correcting a frequency characteristic of one of the generated plurality of constant envelope signals using a signal component included in the amplified plurality of constant envelope signals and corresponding to the plurality of pilot signals.

9. A wireless base station apparatus comprising the amplifier circuit according to claim 1.

10. A wireless terminal apparatus comprising the amplifier circuit according to claim 1.

11. An amplifying method comprising the steps of:

generating a plurality of constant envelope signals from an input signal;

generating a plurality of pilot signals associated with the generated plurality of constant envelope signals,

respectively, the plurality of pilot signals having predetermined amplitudes, predetermined phases and predetermined frequencies, respectively, the phases and frequencies being different from each other;

adding the plurality of pilot signals to the generated plurality of constant envelope signals;

amplifying the plurality of constant envelope signals to which the plurality of pilot signals are added; and

correcting an amplitude or phase of one of the generated plurality of constant envelope signals using signal components included in the amplified plurality of constant envelope signals and corresponding to the plurality of pilot signals.